Notice No. 1

Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquid Chemicals in Bulk, July 2015

The status of this Rule set is amended as shown and is now to be read in conjunction with this and prior Notices. Any corrigenda included in the Notice are effective immediately.

Issue date: December 2015

Amendments to	Effective date
Chapter LR I, Section 4	1 January 2016
Chapter LR VI, Sections LR VI.1, LR VI.2 & LR VI.3	1 January 2016
Chapter 8, sub-Sections 8.1 & 8.5	1 January 2016
Chapter 9, sub-Section 9.1	1 January 2016
Chapter 11, sub-Section 11.1	1 January 2016
Chapter 15, sub-Section 15.13	1 January 2016

Lloyd's Register

Working together
for a safer world

Chapter LR I

General Regulations

Effective date 1 January 2016

■ *Section 4*

4.6 The function of the Naval Ship Technical Committee is to consider technical issues connected with Naval Ship matters and to approve proposals for new Naval Ship Rules, or amendments to existing Naval Ship Rules. Where appropriate, Naval Ship Technical Committee may also recognise alternative LR Rule requirements that have been approved by the other Lloyd's Register Technical Committee as adjunct to the Naval Ship Rules.

Chapter LR VI

Cargo Tank Inerting Arrangements

Effective date 1 January 2016

■ *LR VI.1*

Inert Gas Systems on Chemical Tankers of 8,000 tonnes DWT and above

LR VI.1.1 ~~The following requirements apply where an inert gas system based on oil fired inert gas generators is fitted on board chemical tankers.~~ An inert gas system complying with the applicable requirements of Ch 15 of the FSS Code, as amended by MSC.367(93), is to be fitted on tankers of 8,000 tonnes DWT and above. In applying the applicable requirements of Ch 15 of the FSS Code, any use of the word "Administration" therein is to be considered as meaning LR.

Existing paragraphs **LR VI.1.2** *to* **LR VI.1.4** *have been deleted.*

■ *LR VI.2*

Nitrogen Generator Systems on Chemical Tankers of 8,000 tonnes DWT and above

LR VI.2.1 The following requirements ~~are specific only to the gas~~ apply where a nitrogen generator system is fitted on board tankers of 8,000 tonnes DWT and above. ~~and apply where~~ For the purpose, the inert gas is to be produced by separating air into its component gases by passing compressed air through a bundle of hollow fibres, semi-permeable membranes or adsorber materials.

LR VI.2.2 ~~Where nitrogen generator systems are provided in place of boiler flue gas or oil fired inert gas generators referred to in LR VI.1, the following requirements of Chapter 15 of the FSS Code or equivalent requirements of Resolution A.567(14) remain applicable for the piping arrangements, alarms and instrumentation downstream of the gas generator: 2.3.1.3.1, 2.3.1.3.2, 2.3.1.5, 2.3.2, 2.4.2, 2.4.3.1.6, 2.4.3.1.8, 2.4.3.1.9, 2.4.3.3, 2.4.3.4, 2.4.4, as well as~~ In addition to the applicable requirements of Ch 15 of the FSS Code, as amended by MSC.367(93), the nitrogen generator system is to comply with SOLAS ~~Reg.~~Regulations II-2/4.5.3.4.2, 4.5.6.3 and 11.6.3.4.

LR VI.2.3 A nitrogen generator consisting of a feed air treatment system and any number of membrane or adsorber modules in parallel is to be capable of delivering nitrogen to the cargo tanks at the rate required by paragraph 2.2.1.2.4 of Ch 15 of the FSS Code, as amended by MSC.367(93).~~is to be capable of delivering nitrogen to the cargo tanks at a rate of at least 125 per cent of the maximum discharge capacity of the ship expressed as a volume to time rate.~~

Existing paragraphs **LR VI.2.4** *to* **LR VI.2.5** *have been deleted.*

~~**LR VI.2.6**~~ **LR VI.2.4** The nitrogen generator is to be capable of delivering high purity nitrogen with an oxygen content in accordance with paragraph 2.2.1.2.5 of Ch 15 of the FSS Code, as amended by MSC.367(93)~~with oxygen content not exceeding 5 per cent by volume~~. In addition to meeting the venting requirements of paragraph 2.2.2.4 of Ch 15 of the FSS Code, as amended by MSC.367(93), ~~T~~the system is to be fitted with automatic means to discharge "off-spec" gas to the atmosphere during start-up and abnormal operation ~~when predetermined limits are reached, *see* LR VI.2.16(a) to (e)~~.

Chapter LR VI

~~**LR VI.2.7**~~ **LR VI.2.5** ~~The system is to be provided with two air compressors.~~ The system is to be provided with one or more compressors to generate enough positive pressure to be capable of delivering the total volume of gas required by 2.2.1.2 of the FSS Code, as amended by MSC.367(93). Where two compressors are provided, ~~The~~ the total required capacity of the system is preferably to be divided equally between the two compressors, and in no case is one compressor to have a capacity less than 1/3 of the total capacity required. ~~A system with one air compressor only may be accepted provided, that sufficient spares for the air compressor and its prime mover are carried on board to enable their failure to be rectified by the ship's crew.~~

LR VI.2.6 Where the nitrogen system includes a nitrogen storage tank which has sufficient capacity to deliver the total volume of gas required by 2.2.1.2 of the FSS Code, as amended by MSC.367(93), in the event of failure of a compressor a single compressor may be accepted provided that sufficient spares are carried on board to enable the failure to be rectified by the ship's crew. The list of spare parts required is to be supplied by the manufacturer and supported by a reliability analysis of the specific system submitted to and verified by LR. The size of the nitrogen storage tank is to be specified.

~~**LR VI.2.8**~~ **LR VI.2.7** ~~A~~ The feed air treatment system ~~is to be~~ fitted to remove free water, particles and traces of oil from the compressed air as required by 2.4.1.2 of Ch 15 of the FSS Code, as amended by MSC.367(93), is also ~~and~~ to maintain the specification temperature.

Existing paragraph **LR VI.2.9** *has been deleted.*

Existing paragraphs **LR VI.2.10** *and* **LR VI.2.11** *have been renumbered* **LR VI.2.8** *and* **LR VI.2.9**.

Existing paragraphs **LR VI.1.2.12** *to* **LR VI.2.18** *have been deleted*.

■ *LR VI.3*

Nitrogen/inert gas systems fitted for purposes other than inerting required by SOLAS Reg. II-2/4.5.5.2~~1.1~~

LR VI.3.1 This section applies to systems fitted to which SOLAS regulation II-2/4.5.5.2 does not apply.

LR VI.3.2 The requirements given in Ch 15, 2.2.2, 2.2.4, 2.4.1 and 2.4.2 of the FSS Code, as amended by MSC.367(93), apply to the systems as applicable.

~~**LR VI.3.1**~~ **LR VI.3.3** The requirements of LR VI.2 Nitrogen Generator Systems apply except LR VI.2.1, LR VI.2.2, LR VI.2.3, LR VI.2.5 and ~~LR VI.2.7~~ LR VI.2.6.

LR VI.3.4 Materials used in inert gas systems are to be suitable for their intended purpose in accordance with the LR Rules for Materials.

LR VI.3.5 All the equipment is to be installed on board and tested under working conditions to the satisfaction of the Surveyor.

~~**LR VI.3.2**~~ **LR VI.3.6** The two non-return devices as required by paragraph 2.2.3.1.1 of Ch 15 of the FSS Code, as amended by MSC.367(93) are to be fitted in the inert gas main. The non-return devices are to comply with 2.2.3.1.2 and 2.2.3.1.3 of Ch 15 of the FSS Code, as amended by MSC.367(93); however, ~~Where~~ where the connections to the cargo tanks, to the hold spaces or to cargo piping are not permanent, the non-return devices required by ~~LR VI.2 Nitrogen Generator Systems~~ paragraph 2.2.3.1.1 of Ch 15 of the FSS Code, as amended by MSC.367(93) may be substituted by two non-return valves.

Chapter 8

Cargo Tank Venting and Gas-Freeing Arrangements

Effective date 1 January 2016

8.1 Application

8.1.5 For ships to which the Code applies, the requirements of this chapter shall apply in lieu of ~~SOLAS regulations II-2/4.5.3 and 4.5.6~~ SOLAS regulations II-2/4.5.3, 4.5.6 and 16.3.2.

Chapter 8

8.5 Cargo-tank purging

8.5.1 When the application of inert gas is required by Ch 11, 11.1.1, before gas-freeing, the cargo tanks shall be purged with inert gas through outlet pipes with cross-sectional area such that an exit velocity of at least 20 m/s can be maintained when any three tanks are being simultaneously supplied with inert gas. The outlets shall extend not less than 2 m above the deck level. Purging shall continue until the concentration of hydrocarbon or other flammable vapours in the cargo tanks has been reduced to less than 2 per cent by volume.

Existing Section 8.5 *has been renumbered Section* 8.6.

Chapter 9

Environmental Control

Effective date 1 January 2016

9.1 General

(*Part only shown*)

9.1.3 Where inerting or padding of cargo tanks is required by the Code in column "h" of Chapter 17 of the IBC Code:

Chapter 11

Fire Protection and Fire Extinction

Effective date 1 January 2016

11.1 Application

(*Part only shown*)

11.1.1 The requirements for tankers in SOLAS chapter II-2 shall apply to ships covered by the Code, irrespective of tonnage, including ships of less than 500 tons gross tonnage, except that:

(a) regulations ~~4.5.5,~~ 10.8 and 10.9 shall not apply;

Chapter 15

Special Requirements

Effective date 1 January 2016

15.13 Cargoes protected by additives

15.13.2 Ships carrying these cargoes shall be so designed as to eliminate from the cargo tanks and cargo-handling system any material of construction or contaminants which could act as a catalyst or destroy the inhibitor [5].

15.13.5 ~~A product containing an oxygen-dependent additive shall be carried without inertion (in tanks of a size not greater than 3,000 m^3). Such cargoes shall not be carried in a tank requiring inertion under the requirements of SOLAS chapter II-2 [5] .~~ When a product containing an oxygen-dependent inhibitor is to be carried:

(a) in a ship for which inerting is required under SOLAS regulation II-2/4.5.5, as amended, the application of inert gas shall not take place before loading or during the voyage, but shall be applied before commencement of unloading [5];

(b) in a ship to which SOLAS regulation II-2/4.5.5, as amended, does not apply, the product may be carried without inertion (in tanks of a size not greater than 3,000 m^3). If inertion is to be applied on such a ship, then the application of inert gas shall not take place before loading or during the voyage, but shall be applied before commencement of unloading [5].

Chapter 15

5

~~For equivalency arrangements for the carriage of styrene monomer, see MSC/Circ.879 and MSC/Circ.879/Corr.1~~ Refer to MSC-MEPC.2/Circ.14 on Products requiring oxygen-dependent inhibitors.

© Lloyd’s Register Group Limited 2015
Published by Lloyd’s Register Group Limited
Registered office (Reg. no. 08126909)
71 Fenchurch Street, London, EC3M 4BS
United Kingdom

Lloyd’s Register is a trading name of Lloyd’s Register Group Limited and its subsidiaries. For further details please see http://www.lr.org/entities

Lloyd's Register Group Limited, its subsidiaries and affiliates and their respective officers, employees or agents are, individually and collectively, referred to in this clause as ‘Lloyd's Register’. Lloyd's Register assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant Lloyd's Register entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.